

We claim:

1. An integrated circuit, comprising:

lines, including a first line and a second line, for carrying one of DC voltages and low-frequency voltages; and

a radio-frequency (RF) filter device connected to said lines and preventing and restricting a propagation of high-frequency interference signals through said lines.

2. The integrated circuit according to claim 1, including component parts connected to said RF filter device, said RF filter device is disposed, constructed and dimensioned such that said component parts are protected against the high-frequency interference signals transmitted through said lines and fed to said component parts.

3. The integrated circuit according to claim 2, wherein said component parts generate and output further high-frequency interference signals carried by said lines, and said RF filter device is disposed, constructed and dimensioned such that said RF filter device filters out the further high-frequency interference signals generated and output by said component parts and carried on said lines.

4. The integrated circuit according to claim 1, including component parts connected to said lines and generating and outputting further high-frequency interference signals carried by said lines, said RF filter device is disposed, constructed and dimensioned such that said component parts are protected against the high-frequency interference signals and also protected against the further high-frequency interference signals generated within the integrated circuit.

5. The integrated circuit according to claim 1, including component parts to be protected against the high-frequency interference signals, said RF filter device is disposed in direct proximity and connected to said component parts for suppressing the high-frequency interference signals, and said component parts generating further high-frequency interference signals also being suppressed by said RF filter device to prevent interferences in others of said component parts and to parts external to the integrated circuit.

6. The integrated circuit according to claim 1, including component parts connected to said RF filter device, said RF filter device is disposed, constructed and dimensioned such that said RF filter device filters out the high-frequency interference signals transmitted through said lines supplying energy required for operation, said component parts generating further high-frequency interference signals and said RF filter

device suppressing the further high-frequency interference signals to prevent interference in others of said component parts and to parts external to the integrated circuit.

7. The integrated circuit according to claim 1, wherein said RF filter device has a capacitor, through which said first line from which said RF filter device is intended to remove the high-frequency interference signals is connected to a reference-ground potential.

8. The integrated circuit according to claim 7, wherein said RF filter device has a resistor inserted into said first line from which said RF filter device is intended to remove the high-frequency interference signals.

9. The integrated circuit according to claim 8, wherein said RF filter device has a further second capacitor, through which said first line from which said RF filter device is intended to remove the high-frequency interference signals is connected to the reference-ground potential.

10. The integrated circuit according to claim 8, including component parts generating further high-frequency interference signals and connected to said lines, said resistor and said capacitor form a low-pass filter at least partially preventing the high-frequency interference signals from reaching said

component parts which are to be protected against the high-frequency interference signals, and said RF filter device suppressing the further high-frequency interference signals from each of said component parts from reaching other ones of said component parts and from reaching outside of the integrated circuit.

11. The integrated circuit according to claim 9, including component parts each generating further high-frequency interference signals and connected to said lines, said resistor and said further capacitor form a low-pass filter at least partially preventing the high-frequency interference signals from reaching said component parts which are to be protected against the high-frequency interference signals by said RF filter device, and said RF filter device suppressing the further high-frequency interference signals from each of said component parts from reaching other ones of said component parts and from reaching outside of the integrated circuit.

12. The integrated circuit according to claim 8,

wherein said capacitor is dimensioned such that energy fed through said lines, connected to said RF filter device, can be drawn completely from said capacitor given one of regular and continuous recharging of said capacitor; and

including component parts each generating further high-frequency interference signals and connected to said lines, said RF filter device protecting said component parts against the high-frequency interference signals, and said RF filter device suppressing the further high-frequency interference signals of each of said component parts from reaching other ones of said component parts and from reaching outside of the integrated circuit.

13. The integrated circuit according to claim 12, wherein said resistor is dimensioned such that a current flowing through said resistor during operation suffices to keep said capacitor continually charged to such an extent that the energy fed through said lines provided with said RF filter device to said component parts can be drawn completely from said capacitor.

14. The integrated circuit according to claim 10, wherein said resistor is dimensioned such that said low-pass filter prevents a flowing of the high-frequency interference signals.

15. The integrated circuit according to claim 9, wherein said resistor is dimensioned such that resonances which said capacitor and said further capacitor form with a rest of a system and among one another are reduced to a degree which

•
does not interfere with an operation of the integrated circuit.

16. The integrated circuit according to claim 8, wherein said resistor is dimensioned such that said resistor converts the high-frequency interference signals filtered out by said RF filter device at least partially into heat.

17. The integrated circuit according to claim 1, including a plurality of component parts, and said RF filter device is one of a plurality of RF filter devices each connected to different ones of said component parts.